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# OVERVIEW OF THE EPA, THE CLEAN WATER ACT, AND WATER QUALITY STANDARDS

VIRTUAL WQS ACADEMY

MAY 2023

# DISCLAIMERS

- This presentation does not:
  - Impose any binding requirements
  - Determine the obligations of the regulated community
  - Change or substitute for any statutory provision or regulatory requirement
  - Change or substitute for any Agency policy or guidance
  - Control in any case of conflict between this discussion and statute, regulation, policy, or guidance

The views expressed in presentation are those of the author(s) and do not necessarily represent the views or policies of the U.S. Environmental protection Agency.

# MODULE OVERVIEW

- The EPA: Mission and Structure
- History of the Clean Water Act
- Laws, Regulations and Guidance Related to Water Quality Standards (WQS)
- Water Quality Standards (WQS) Overview
  - Core Components of WQS
- Roles of States, Territories and Authorized Tribes, the Public, and the EPA
- Implementing WQS

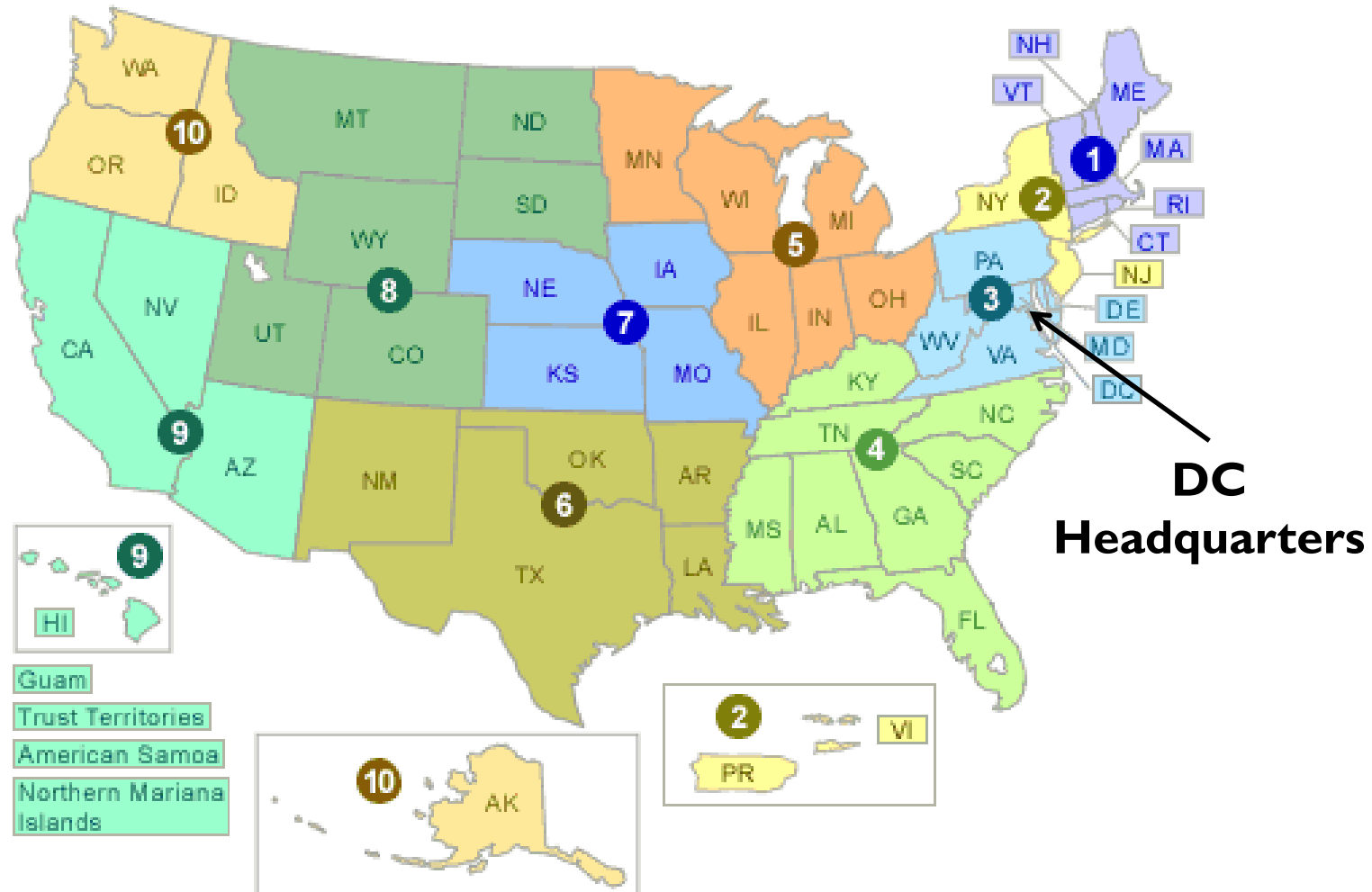
# WHAT IS THE ENVIRONMENTAL PROTECTION AGENCY (EPA)?

- Mission – Protect human health and safeguard the natural environment
- *A Regulatory Agency*
  - Regulatory responsibilities in air, water, solid waste, pesticides, radiation, toxic substances and hazardous waste
- *A Science Agency*
  - National and Regional laboratories perform scientific research to support regulatory actions
- *A Trust Agency*
  - Responsibility to federally recognized Indian tribes to protect their lands and resources (in absence of another mutual agreement)

# EPA HEADQUARTERS ORGANIZATIONAL STRUCTURE



# EPA REGIONAL OFFICES



# EPA HQ: OFFICE OF WATER (OW)

- Implements:
  - Clean Water Act
  - Safe Drinking Water Act
  - Others (portions)
- Structure
  - Office of Ground Water and Drinking Water
  - Office of Wetlands Oceans and Watersheds
  - Office of Wastewater Management
  - Office of Science and Technology (OST)



# MAJOR ENVIRONMENTAL STATUTES THAT EPA IMPLEMENTS

- National Environmental Policy Act (NEPA)
- Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)
- Clean Air Act (CAA)
- Toxic Substances Control Act (TSCA)
- Resource Conservation and Recovery Act (RCRA)
- Comprehensive Environmental Response Compensation and Liability Act (CERCLA)
- Safe Drinking Water Act (SDWA)
- **Federal Water Pollution Control Act (FWPCA), or Clean Water Act (CWA)**
  - The CWA gave EPA authority to develop the Water Quality Standards (WQS) regulation



# HISTORY OF CWA AMENDMENTS



Cleveland's Cuyahoga river on fire



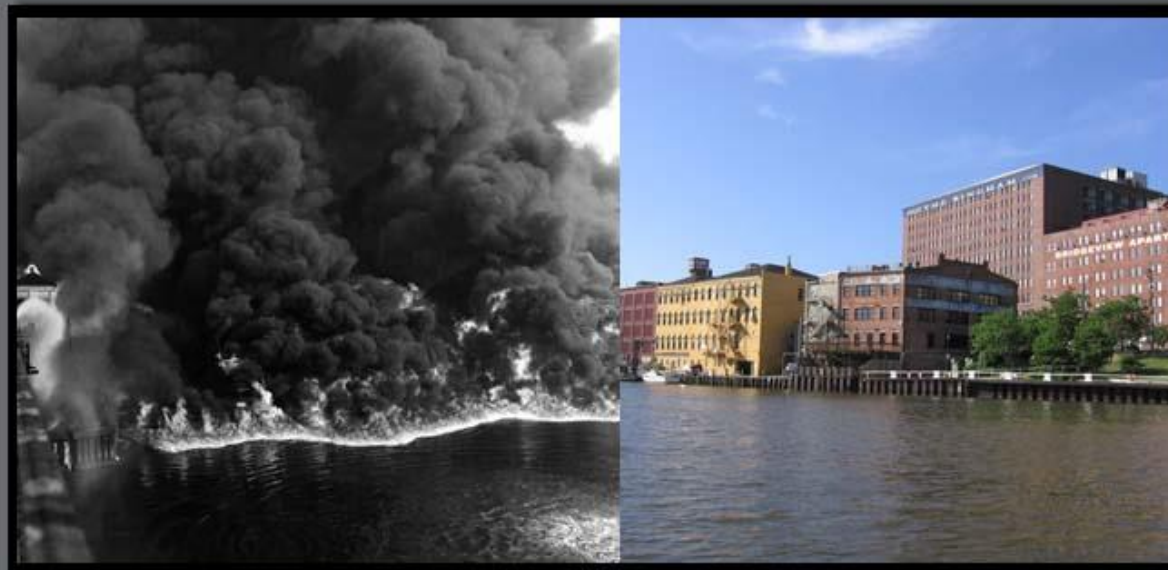
Cleveland Mayor  
Carl Stokes on the  
banks of the  
Cuyahoga, 1969

- 1948: Federal Water Pollution Control Act (FWPCA).
- **1972: Major set of amendments, as amended to “Clean Water Act” (CWA).**
- 1981: Streamlined construction grants.
- 1987: Phased out construction grants, replaced with Clean Water State Revolving Fund.
- 2000: The “BEACH Act” amendments established a grant program to support monitoring and advisory programs at coastal marine and Great Lakes beaches. Also required research and development of recreational criteria by EPA.
- Today: The “Modern” Clean Water Act.

# THE 1972 AMENDMENTS TO FWPCA: “CLEAN WATER ACT (CWA)”

- Established the basic structure for regulating pollutants discharged into the “waters of the US.”
- Made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions.
- Funded the construction of sewage treatment plants under the construction grants program.
- Required each state and territory to adopt water quality standards for all intrastate waters and provided for EPA review and approval or disapproval.
- Provided opportunities for meaningful public engagement.

# WHY DOES THE CLEAN WATER ACT MATTER?



CUYAHOGA RIVER

Ca. 1960s

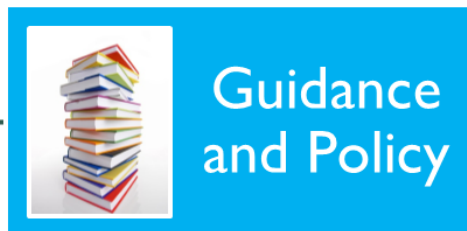
present day

Cuyahoga River water quality improvements in recent years reflect the effects of requirements of the CWA 1972 amendments.



# LAWS, REGULATIONS AND GUIDANCE RELATED TO WATER QUALITY STANDARDS

# WORKING TOWARD CWA GOALS: IT'S A HIERARCHY



- The Clean Water Act (CWA) is a statute.
  - Statutes are laws passed by Congress.
- The CWA gave EPA the authority to promulgate regulations.
  - These are rules to implement the statute.
  - This presentation will mention several of EPA's regulations under the CWA, including VQS (40 CFR 131), NPDES (40 CFR 122), and TMDL (40 CFR 130.7).
- EPA publishes guidance to assist states and authorized tribes
  - Guidance does not have the force of law.

# LAW: CLEAN WATER ACT (CWA)

- Objective: “restore and maintain the chemical, physical and biological integrity of the Nation’s waters” (CWA 101(a))
- Interim goal: “water quality which provides for the protection and propagation of fish, shellfish and wildlife and provides for recreation in and on the water” wherever attainable (CWA 101(a)(2))
- *A note on numbers and nomenclature...* “Clean Water Act” is at 33 U.S.C. §§ 1251-1387. 1251 = “101” (see crosswalk)

# WATERS UNDER CWA JURISDICTION

- The Clean Water Act applies to “navigable waters,” which the Act defines as “the waters of the United States.”
- EPA and the Department of the Army have issued regulations defining this term since the 1970s.
- A broad range of waters have at times fallen within the terms of the regulatory definition, including certain rivers, streams, lakes, natural ponds, impoundments, wetlands, and marine waters.
  - Marine waters include estuaries (such as bays), salt marshes, lagoons, and near-shore coastal waters.
- Issues around the definition of “waters of the United States” have been litigated numerous times, including up to the Supreme Court.
- The definition of “waters of the United States” does not include groundwater (and never has).
- Some states or authorized tribes may have WQS for groundwater, but such standards do not fall within the scope of the federally mandated WQS program.

# KEY CWA SECTIONS

The following are key sections that outline a portion of the major implementation programs. The first number of the section indicates the title of the Act in which that section is located.

- CWA 101 - Goals and Policy
- CWA 301 - Technology Based Effluent Limits
- CWA 302 - Water Quality Based Effluent Limits
- CWA 303 - Water Quality Standards and Implementation
- CWA 319 - Nonpoint Source Management
- CWA 401 - State/Tribal Certification
- CWA 402 - Point Source Permitting (NPDES)
- CWA 502 - Definitions: Navigable, Pollutant...
- CWA 510 - State/Tribal Authority
- CWA 518 - Indian Tribes



# WHAT ACTIVITIES ARE REGULATED UNDER CWA?

## ■ 'Point source' – regulated under CWA

- Defined at CWA 502(14) “any discernable, confined and discrete conveyance including...any pipe, ditch, channel...[etc.] from which pollutants are or may be discharged.”
- These discharges generally must be regulated in a manner consistent with state/tribal WQS. For example, discharges of point source pollutants regulated under the National Pollutant Discharge Elimination System (NPDES) must be permitted and permit limits must be derived from and comply with WQS.



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## ■ 'Nonpoint source' – *not regulated under CWA*

- Any source of water pollution that does not meet the definition at CWA 502(14).
- Polluted runoff from rain or snowmelt carrying natural and anthropogenic pollutants to waters. Examples include runoff from agricultural lands, stream erosion, unregulated urban runoff and atmospheric deposition.



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# CWA'S TWO APPROACHES TO MAINTAIN AND PROTECT WATER QUALITY



## Technology-based Approach

- **Goal:** Achieve a specific level of end-of-pipe performance.
- **Focuses on:** meeting limits derived from levels that EPA expects each type of industrial & municipal discharger to achieve for specific pollutants based on the performance of treatment and control technologies.
- Calculate technology-based effluent limits (TBELs) derived from federal effluent guidelines.
- CWA 301; 40 CFR 122.44(a) & (e); 40 CFR 125.3, 40 CFR 405-471

## Water Quality-based Approach

- **Goal:** Meet water quality standards (WQS) in the receiving water.
- **Focuses on:** meeting limits based on what is needed to achieve water quality standards that apply to the ambient receiving water and are derived on a case by case basis.
- Calculate water quality-based effluent limits (WQBELs) derived from WQS which are applied to the water body.
- CWA 302; 40 CFR 122.44(d), 40 CFR 131-132



# QUESTIONS?



# WATER QUALITY STANDARDS

# CWA 303: BASIS FOR WATER QUALITY STANDARDS

- WQS define the water quality goals for a waterbody.
- WQS provide a regulatory basis for many actions, e.g.,
  - Reporting on water quality conditions and status.
  - Developing water quality-based effluent limits in National Pollutant Discharge Elimination System (NPDES) permits for point sources.
  - Setting targets for Total Maximum Daily Loads (TMDLs).
- An important function of WQS is to provide a regulatory basis for the water quality management activities authorized under the CWA.

# REGULATION: WATER QUALITY STANDARDS

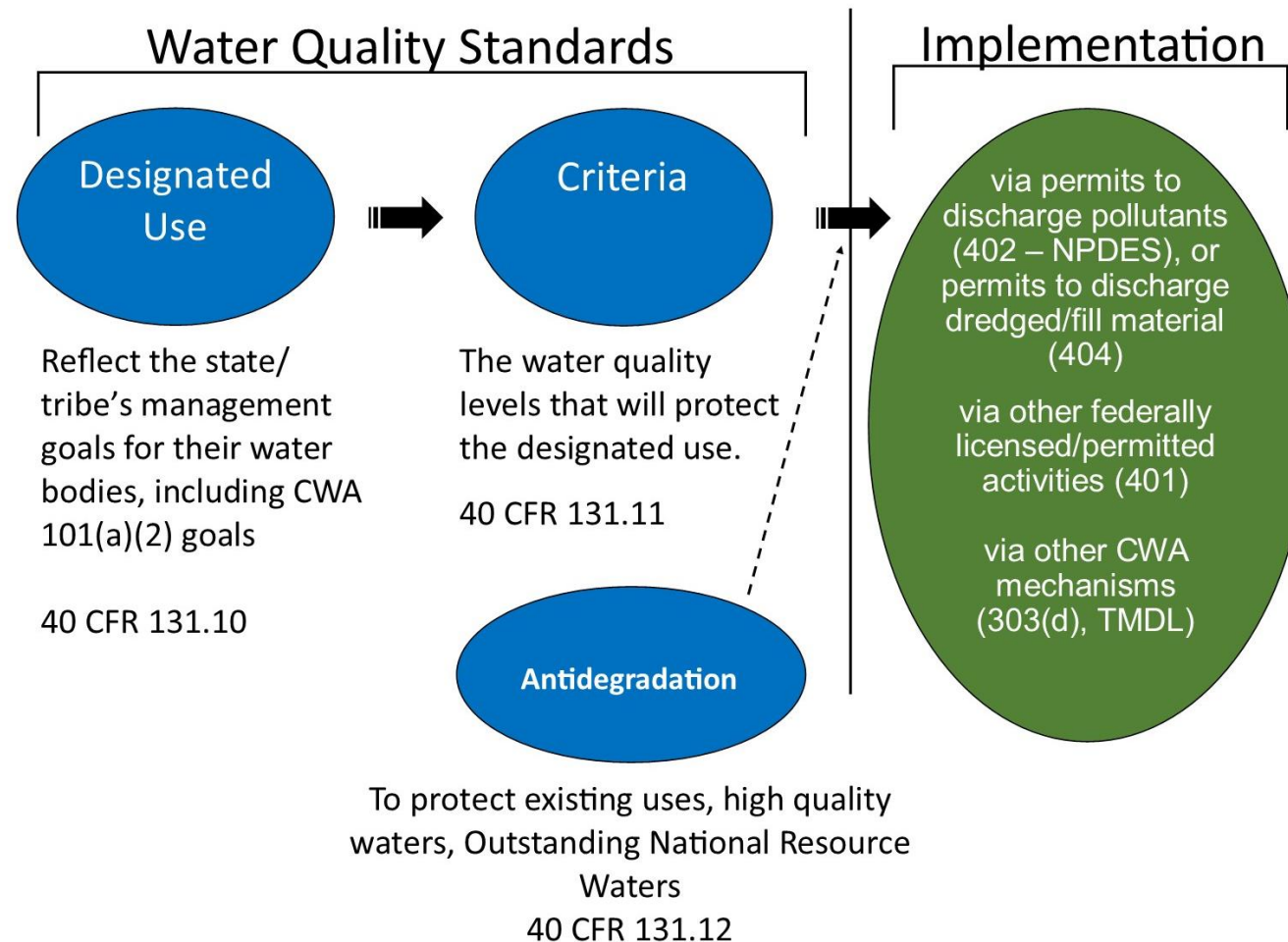


- Water quality standards (WQS) are the core of water quality management programs.
- States, territories and authorized tribes adopt WQS to protect public health or welfare, enhance the quality of the water, and serve the purposes of the Clean Water Act including sections 101(a) and 101(a)(2).
- State/Territorial/Tribal WQS establish water quality goals for a water body and provide a regulatory basis for controls.
- The current federal regulation is in the Code of Federal Regulations (CFR) part 131, as well as part 132 for the Great Lakes area. The federal regulation contains procedures for developing, revising, and approving state and tribal-adopted WQS and for promulgation of state and tribal WQS by EPA.
- EPA-approved state and tribal WQS can be supplemented by other state or tribal programs.

# COMPONENTS OF WQS

- WQS consist of 3 core components:
  - Designated uses (sometimes known as “beneficial uses”),
  - Criteria to protect those uses, and
  - Antidegradation requirements.
- Additional components: general policies (e.g., low flow provisions, mixing zone policies) (40 CFR 131.13), WQS variances (40 CFR 131.14), compliance schedule authorizing provisions (40 CFR 131.15).

# WATER QUALITY STANDARDS SCHEMATIC





# ADDITIONAL COMPONENTS OF WQS

## (40 CFR 131.13-131.15)

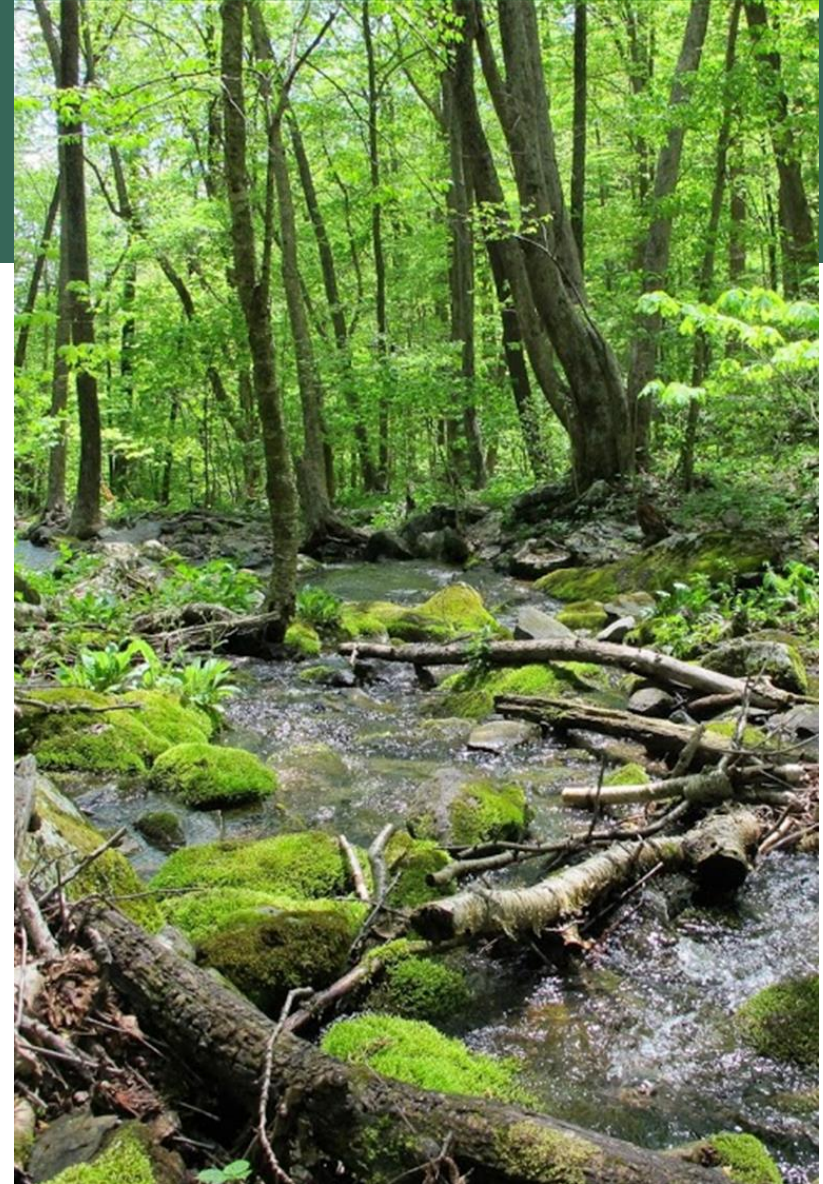
- States and authorized tribes may adopt additional policies affecting the application and implementation of water quality standards in addition to WQS such as:
  - Mixing zone policies (40 CFR 131.13)
  - Low flow policies (40 CFR 131.13)
  - WQS variance policies (includes WQS variance policies, procedures and authorizing provisions) (40 CFR 131.14)
  - WQS variances, More information on WQS variances can be found at: <https://www.epa.gov/wqs-tech/water-quality-standards-variances> (40 CFR 131.13)
  - Provisions authorizing use of compliance schedules for WQBELs in NPDES permits (40 CFR 131.15)
- If these additional policies are legally binding provisions, then they are considered new or revised WQS and are subject to EPA review and approval.

# NPS MANAGEMENT PROGRAM (SECTION 319)

The 1987 amendments to the Clean Water Act (CWA) established the Section 319 Nonpoint Source Management Program. Section 319 addresses the need for greater federal leadership to help focus state and local nonpoint source efforts.

Key parts to note:

- 319(a) required states to develop NPS assessment reports that identify NPS pollution problems and sources responsible for water quality impairments.
- 319(b): State NPS Management Programs and the watershed approach.
- 319(h): Grant Program



# WQS AFFECT EVERYONE IN THE U.S.

- People as private citizens/residents of the U.S.
  - Tribal and Alaskan Native people (government-to-government relationship with the U.S., but geographically located in the U.S.)
  - People represented by political jurisdictions (e.g., states)
  - People involved as stakeholders (e.g., regulated entities, environmental groups)
- 
- Some people and communities are disproportionately affected by environmental and health hazards.

# EPA AND ENVIRONMENTAL JUSTICE

- Environmental Justice (EJ) = fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. It will be achieved when everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn, and work.
- Executive Order 12898 (1994, President Clinton): Policy directive to all federal agencies to make EJ a high priority and identify and address the disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations.
- EPA's strategy for advancing EJ, the EJ 2020 Action Agenda, addresses the barriers to overcome when working with environmentally overburdened, underserved, and economically distressed communities.
- EJ Coordinators at EPA
- Learn more about EJ at EPA: <https://www.epa.gov/environmentaljustice>



# QUESTIONS?

# WATER QUALITY STANDARDS: KNOW THE ROLES

- States and authorized tribes, which we often shorthand in presentation, but means:
  - States,
  - Territories (treated like states), and
  - Federally recognized Indian tribes with “TAS” (treatment in a manner similar to a state): “Authorized tribes”
- Community / public involvement
- EPA Regional Offices
- EPA Headquarters (Office of Science and Technology (OST))

# ROLE: STATES, TERRITORIES AND AUTHORIZED TRIBES

- States, territories and authorized tribes have the primary authority to adopt, review and revise WQS and implementation procedures (CWA 303(c)). They must:
  - submit their WQS to EPA for review and approval or disapproval after adoption into their state or tribe's regulations,
  - review their WQS triennially, and
  - conduct a public hearing to involve the public.
- They may adopt standards more stringent than recommended by EPA (CWA 510).
- Tribes may or may not assume responsibility for administering the program at their option. They may apply for "Treatment in a Similar Manner as a State" (TAS) for the purposes of administering EPA programs under CWA 518.



# ROLE: COMMUNITY / PUBLIC INVOLVEMENT



- EPA encourages states, and authorized tribes to reach out to the local communities and learn how they use their water body and to keep those communities informed of. By engaging early and often, WQS decisions will best reflect the variables and needs of a local community which will benefit the public and implementing agency.
- Community members should be engaged meaningfully throughout the decision-making process through public meetings, webinars, and public hearings as necessary.
- Each community has unique considerations, and outreach should be tailored to meet those needs. Considerations when engaging the local community might include language, age, rural/urban population, community work schedules, income and education levels, literacy rates, and community demographics.



# ROLE: EPA

- Facilitate development of regulations and policies that guide EPA's review of submitted WQS.
- Coordinate with and provide technical assistance to states and authorized tribes.
- Develop and publish CWA 304(a) criteria recommendations (based on latest science).
- Approve/disapprove WQS submitted by states and authorized tribes.

# ROLE: EPA REGIONAL OFFICES

- Other roles beyond acting on WQS:
  - Serve as primary contacts with states and tribes for water programs
  - Provide technical assistance
  - Request Administrator “determinations” under CWA 303(c)(4)(B)
    - EPA may promulgate WQS for a state/tribe in any case where the Administrator determines new or revised standards are necessary to meet the requirements of the CWA (“Administrator Determination”).

# ROLE: EPA HEADQUARTERS (OW-OST)

- Facilitates development of regulations and policies that guide EPA Regional review of submitted WQS
- Develops and publishes CWA 304(a) criteria recommendations (based on latest science)
- Provides informal concurrence on:
  - Disapprovals
  - Approvals that raise significant issues
- Leads development and financing of promulgations
- Coordinates with OMB

# IMPLEMENTING WQS

A state, territory or authorized tribe has adopted WQS into their regulations and EPA has approved them under 303(c). Now what?

## **WQS: Theory, Plans, Process**



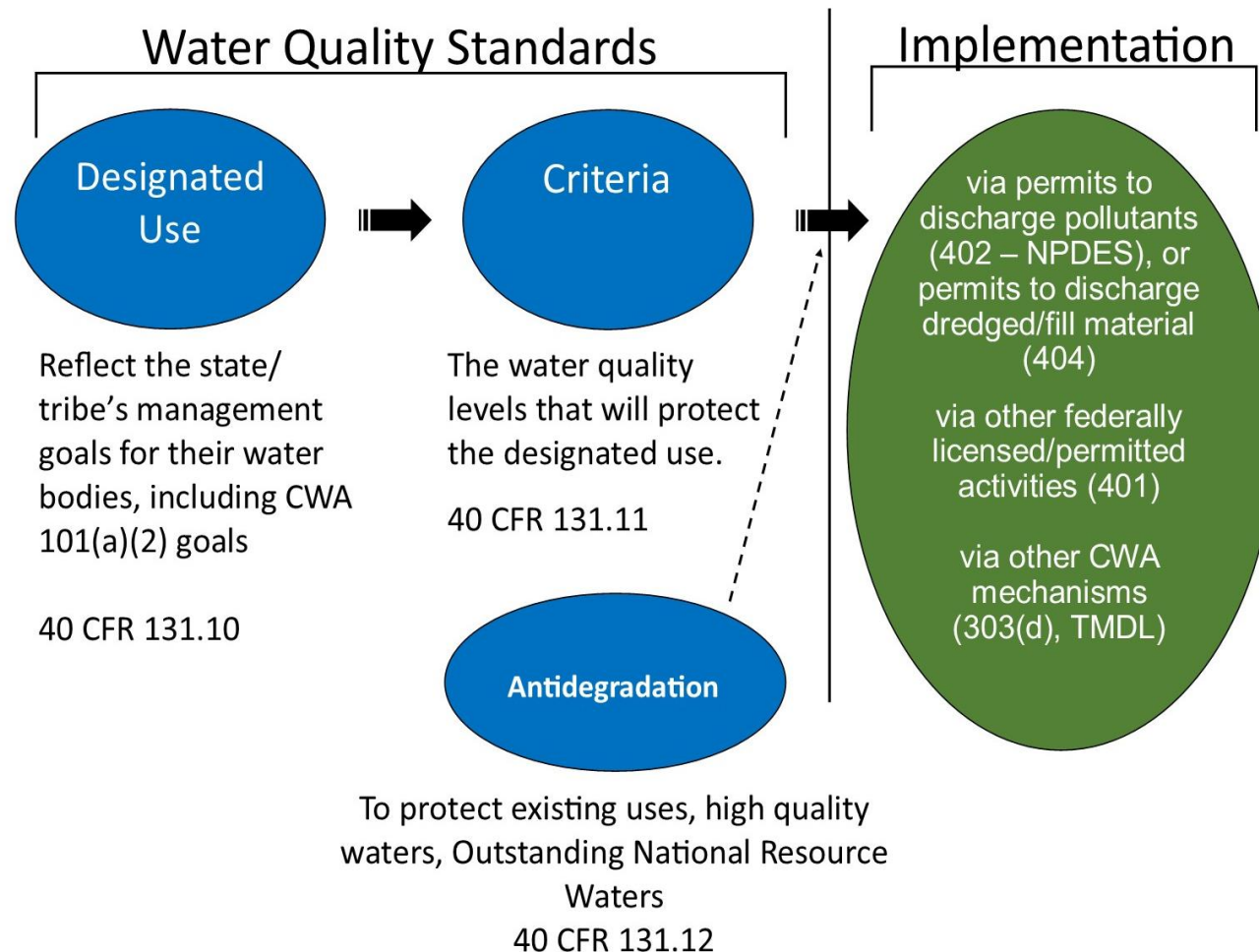
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## **Implementation: Permits to discharge or waterbody assessment program**



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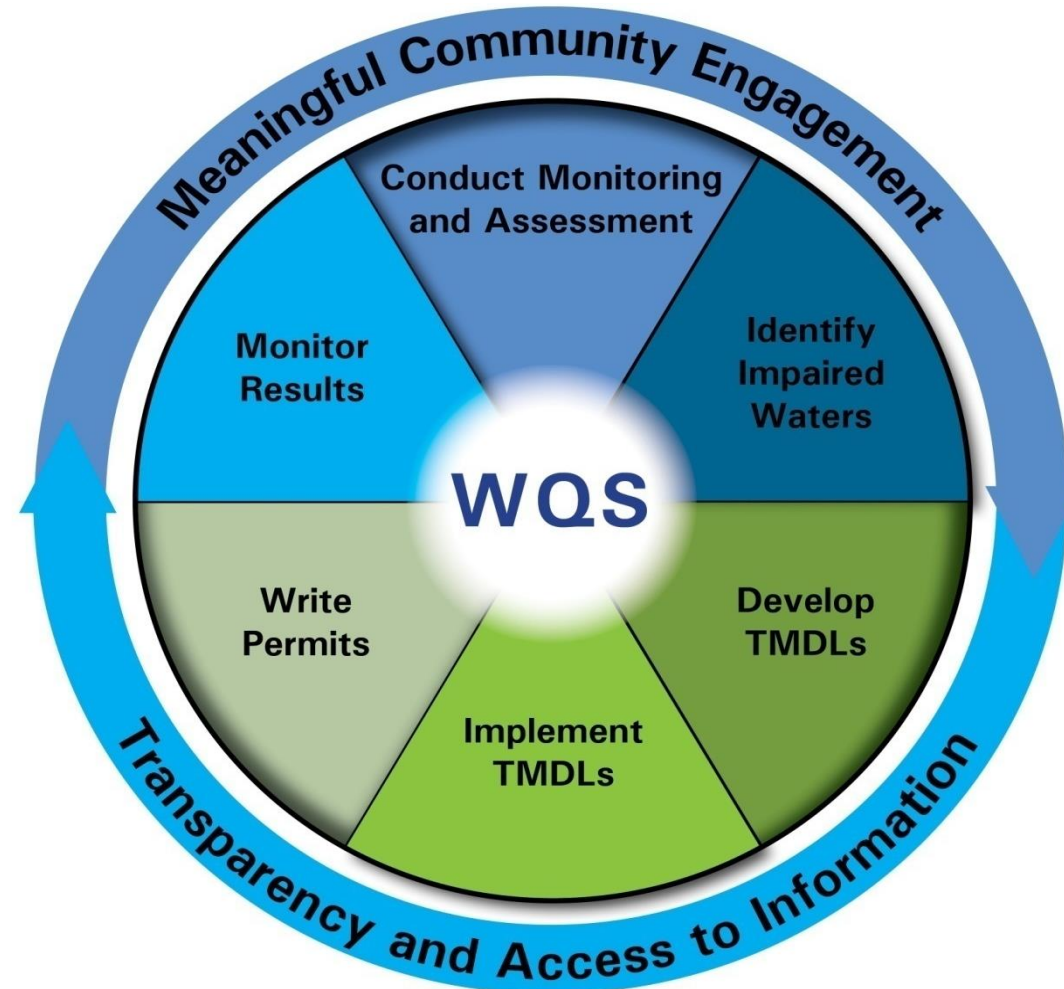
# WATER QUALITY STANDARDS SCHEMATIC



# IMPLEMENTING WQS

- NPDES permitting for point source dischargers
- Assessing waters for inclusion on state 303(d) list of impaired waters
- As target for calculating Total Maximum Daily Loads (TMDLs)
- Remember, other state and federal laws and regulations rely on WQS too!
  - Army Corps is required to take WQS into consideration when issuing dredge & fill (CWA 404) permits
  - CWA Section 401 certification

# WATER QUALITY BASED APPROACH



# OVERVIEW: TAKE HOME MESSAGES (I)

- The CWA establishes a national goal of “water quality which provides for the protection and propagation of fish, shellfish and wildlife and provides for recreation in and on the water, wherever attainable.”
- The CWA and the WQS regulations are the basis for EPA’s review and approval of adopted state and tribal water quality standards.
- States, territories and authorized tribes, and EPA Regions and HQ, have important and unique roles in developing, adopting, reviewing and approving water quality standards.



# OVERVIEW: TAKE HOME MESSAGES (2)

## State/Tribal Water Quality Standards:

- Establish water quality goals for a water body
- Core components:
  - Designated Uses
  - Criteria
  - Antidegradation
- Provide the regulatory basis for controls beyond technology-based limits in permits
- Are used to determine attainment and non-attainment, for future TMDL development

# QUESTIONS?

